REMARKS

By this amendment, claims 11, 25, 28, 33, and 36 have been amended. Accordingly, claims 1-7, 9-22, and 25-45 are currently pending in the application, of which claims 1, 7, 11, 25, 28, 33, 36, and 44 are independent claims.

Applicants respectfully submit that the above amendments do not add new matter to the application and are fully supported by the specification. Support for the amendment(s) may be found at least in Figure 9 and at page 18, line 9 through page 19, line 11 of the specification.

Entry of the Amendments and Remarks is respectfully requested because entry of Amendment places the present application in condition for allowance, or in the alternative, in better form for appeal. No new matters are believed to be added by these Amendments. In view of the above amendments and the following Remarks, Applicants respectfully request reconsideration and timely withdrawal of the pending objections and rejections for the reasons discussed below.

Rejections Under 35 U.S.C. § 102

Claim 28 stands rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by U. S. Pub. No. (2002/0180680) issued to Moon, *et al.* ("Moon"). Applicants respectfully traverse this rejection for at least the following reasons.

Claim 28, as amended, recites a combination of steps including:

> (a) sequentially transmitting scanning signals to the gate lines;
> (b) upon receipt of RGB gray scale data for displaying picture images from the outside, establishing corrected RGB gamma curves based on the RGB gray scale data and

predetermined imaginative gamma curves, and generating data voltages based on the corrected RGB gamma curves.

See also p. 18 of the Specifications and Figure 9.

Moon does not teach all of these limitations. Instead, Moon discloses a gray scale voltage generation unit that performs gamma correction of gray scale signals by transforming the analog gray scale signals into a gamma curve using a predetermined gamma constant, See section [0022]. Moon explains how bright screens use values of gamma constants greater than 2.2 whereas dark screens use gamma constants less than 2.2, See section [0013]. As stated in section [0025], this transformation of the control voltage is made depending upon the predetermined gamma constant. Gamma correction is a power (exponential) function that corrects a monitor's intensity response given a certain voltage input, thus controlling the overall brightness of an image. The result of this correction is one or more rigid or variable gray scale voltages on the basis of the gamma curve, see sections [0022]-[0024].

Applicant respectfully submits that the Examiner incorrectly related Moon's gamma correction with the color correction disclosed in the present application and claimed in Claim 28. The generation of data voltages from corrected RGB gamma curves is done using a predetermined imaginative gamma curve, not a gamma constant, as in Moon. In addition, use of the predetermined imaginative curve allows for bit-extension of the raw RGB data, thus enhancing the color outputs, unlike in Moon.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 102(e) rejection of claim 28. Since none of the other prior art of record discloses or

suggests all the features of the claimed invention, Applicants respectfully submit that

independent claim 28, and all the claims that depend therefrom are allowable.

Rejections Under 35 U.S.C. § 103

Claims 1-4, 33-35 stand rejected under 35 U.S.C. § 103(a) as being allegedly

unpatentable over U. S. Patent No. 5,359,342 issued to Nakai, *et al.* ("Nakai") in view of

U. S. Patent No. 6,075,514 issued to Ryan ("Ryan"). Applicants respectfully traverse this

rejection for at least the following reasons.

Claims 1 and 33 are allowable because they teach a combination of features that

none of the applied references teach or suggest. For example, Claim 1 states,

> the color correction unit generates corrected RGB picture
> data based on gray values over a predetermined imaginative
> gamma curve established in accordance with the
> characteristic of the liquid crystal display panel, stores gray
> values of corrected RGB gamma curves corresponding to
> the corrected picture data, and gamma-corrects the raw
> RGB picture data based on gray values of the stored
> corrected RGB gamma curves.

Claim 33, as amended, states

> a color correction unit for generating first corrected RGB
> picture data corresponding to input RGB picture data based
> on gray values over a predetermined imaginative gamma
> curve for outputting second corrected RGB picture data in
> accordance with the first corrected picture data

Nakai and Ryan are deficient references because neither of them teaches the color

correction of RGB picture data based on gray values over a predetermined imaginative

gamma curve as stated in claims 1 and 33 and depicted in Figure 9. Instead, Nakai

teaches a brightness control by a simple gamma correction based on stored correction

data. Nakai's gamma correction takes 8 bits of color data and outputs 8 bits of corrected

color data, as described in Col. 4, lines 55-56. Ryan uses a look up table method to correct pixel values, but it too, like Nakai does not teach the correction over a predetermined imaginative gamma curve. Even the bit extension mentioned in Ryan in Col. 9, lines 60-61 is a well-known dithering process, as opposed to the color correction described in claims 1 and 33. The methods described in Nakai and Ryan are thus different from the color correction method described in the present application on page 18, line 9 through page 19, line 7 of the specification, and as shown in Figure 9.

Claims 2, 3, and 4 are dependent upon claim 1, and claims 34 and 35 are dependent upon claim 33. As discussed above, since claims 1 and 33 are patentable over Nakai and Ryan, Applicant respectfully submits that dependent claims 2-4, 34, and 35 are patentable over these references.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claims 1-4, 33-35. Since none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed invention, Applicants respectfully submit that independent claims 1, 33 and all the claims that depend therefrom are allowable.

Claims 5-7, 9 and 10 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Nakai and Ryan as applied to claim 1 above, and further in view of admitted prior art. Applicants respectfully traverse this rejection for at least the following reasons.

As stated above, claim 1 is patentable over Nakai and Ryan because these references fail to teach the color correction of RGB picture data based on gray values

over a predetermined imaginative gamma curve as depicted in Figure 9. Claim 7 also describes a color correction over a predetermined imaginative curve. The proposed combination of admitted prior art cited by the examiner does not cure Nakai and Ryan of their defects since it, too, does not teach the limitations of independent claims 1 and 7.

Claims 5 and 6 are dependent on claim 1 and claims 9 and 10 are dependent on claim 7. Since claims 1 and 7 are patentable over the proposed combination of Nakai, Ryan, and admitted prior art, Applicant respectfully submits that dependent claims 5, 6, 9, and 10 are also patentable over these references.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claims 5-7, 9, and 10. Since none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed invention, Applicants respectfully submit that independent claims 1 and 7 and all the claims that depend therefrom are allowable.

Claims 11-15, 19-21, 25, 28-32, 36-39, 41, 44, and 45 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Nakai and Ryan as applied to claim 1 above, and further in view of U. S. Patent No. 5,196,738 issued to Takahara, *et al.* ("Takahara"). Applicants respectfully traverse this rejection for at least the following reasons.

As stated above, claim 1 is patentable over Nakai and Ryan because these references fail to teach the color correction of RGB picture data based on gray values over a predetermined imaginative gamma curve as depicted in Figure 9. Independent claims 11 (as amended), 25 (as amended), 28, 36 (as amended), and 44 also describe

color correction over a predetermined imaginative curve. Takahara teaches an LCD device which uses thin-film transistors, but it does not teach color correction over a predetermined imaginative curve. The proposed combination of Takahara cited by the examiner does not cure Nakai and Ryan of their defects since it, too, does not teach the limitations of independent claims 11, 28, 36, and 44.

Claims 12-15 and 19-21 are dependent on claim 11, claims 29-32 are dependent on claim 28, claims 37-39 and 41 are dependent on claim 36, and claim 45 is dependent on claim 44. Since claims 11, 28, 36, and 44 are patentable over the proposed combination of Nakai, Ryan, and Takahara. Applicant respectfully submits that all the dependent claims are also patentable over these references.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claims 11-15, 19-21, 25, 28-32, 36-39, 41, 44, and 45. Since none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed invention, Applicants respectfully submit that independent claims 11, 28, 36, and 44 all the claims that depend therefrom are allowable.

Claims 16, 17, 22 and 40 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Nakai and Ryan and Takahara as applied to claim 11 above, and further in view of U. S. Patent No. 5,777,590 issued to Saxena *et al.* ("Saxena"). Applicants respectfully traverse this rejection for at least the following reasons.

As stated above, claim 11 as amended is patentable over Nakai, Ryan, and Takahara because these references fail to teach the color correction of RGB picture data based on gray values over a predetermined imaginative gamma curve as depicted in

Figure 9. Independent claim 36, as amended, also describes color correction over a predetermined imaginative curve. Saxena teaches a device using frame rate control modulation, but it does not teach color correction over a predetermined imaginative curve. The proposed combination of Saxena cited by the examiner does not cure Nakai, Ryan, and Takahara of their defects since it, too, does not teach the limitations of independent claims 11 and 36.

Claims 16, 17, and 22 are dependent on claim 11 and claim 40 is dependent on claim 36. Since independent claims 11 (as amended), 36 (as amended), and 44 are patentable over the proposed combination of Nakai, Ryan, Takahara, and Saxena, Applicant respectfully submits that all the dependent claims are also patentable over these references.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claims 16, 17, 22 and 40. Since none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed invention, Applicants respectfully submit that dependent claims 16, 17, 22 and 40 are allowable.

Claim 18 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Nakai, Ryan, Takahara, and Saxena as applied to claim 17 above, and further in view of Huang *et al.* (PUB. NO. 2001/0045946). Applicants respectfully traverse this rejection for at least the following reasons.

As stated above, claim 17 is patentable over Nakai, Ryan, Takahara, and Saxena because these references fail to teach the color correction of RGB picture data based on

gray values over a predetermined imaginative gamma curve as depicted in Figure 9. Huang describes a memory control unit comprising non-volative memory, but it does not teach color correction over a predetermined imaginative curve. The proposed combination of Huang cited by the examiner does not cure Nakai, Ryan, Takahara, and Saxena of their defects since it, too, does not teach the limitations of claim 17.

Claims 18 is dependent on claim 17 (which goes back to claim 11) and it further describes "a memory controller, at initial driving, controlling the storing of the gamma data corresponding to the imaginative gamma curve into the non-volatile memory." Since independent claim 11 and dependent claim 17 are patentable over the proposed combination of Nakai, Ryan, Takahara, Saxena, and Huang, Applicant respectfully submits that claim 18 is also patentable over these references.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claim 18. Since none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed invention, Applicants respectfully submit that dependent claims 16, 17, 22 and 40 are allowable.

Claims 26, 27, 42, and 43 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Nakai, Ryan, Takahara, as applied to claims 11, 25, and 36 above, and further in view of admitted prior art (page 1, line 13 to page 4, line 17 and Figs. 1-6). Applicants respectfully traverse this rejection for at least the following reasons.

As stated above, claims 11, 25, and 36 are patentable over Nakai, Ryan, and Takahara because these references fail to teach the color correction of RGB picture data based on gray values over a predetermined imaginative gamma curve as depicted in Figure 9. The admitted prior art teaches that it is well known in the art for an LCD panel to make the display in VA or PVA mode, but it does not teach color correction over a predetermined imaginative curve. The proposed combination of admitted prior art cited by the examiner does not cure Nakai, Ryan, and Takahara of their defects since it, too, does not teach the limitations of claims 11, 25, and 36.

Claims 26-27 are dependent on claim 25 while claims 42-43 are dependent upon claims 36. Since independent claims 11 and 36 are patentable over the proposed combination of Nakai, Ryan, Takahara, and admitted prior art, Applicant respectfully submits that claims 26, 27, 42, and 43 are also patentable over these references.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claims 26, 27, 42, and 43. Since none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed invention, Applicants respectfully submit that dependent claims 26, 27, 42, and 43 are allowable.

In sum, since the none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed invention, Applicants respectfully submit that independent claims 1, 7, 11, 25, 28, 33, 36, and 44, and all the claims that depend therefrom are allowable.

Allowable Subject Matter

Accordingly, Applicants respectfully submit that claims 1-7, 9-22, and 25-45 are in condition for allowance.

Other Matters

Claim 28 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 17 of copending Application No. 10/154,919. A terminal disclaimer in compliance with 37 CFR 1.321(c) is filed herewith in response to this nonstatutory double patenting rejection.

Accordingly, Applicants respectfully request withdrawal of the double patenting rejection of claim 28. Applicants submit that claim 28 is in condition for allowance.
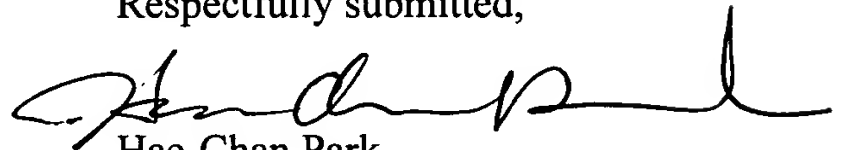
CONCLUSION

Applicants believe that a full and complete response has been made to the pending Office Action and respectfully submits that all of the stated objections and grounds for rejection have been overcome or rendered moot. Accordingly, Applicants respectfully submit that all pending claims are allowable and that the application is in condition for allowance.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact the Applicants' undersigned representative at the number below to expedite prosecution.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,

Hae-Chan Park
Reg. No. 50,114

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McGuireWoods LLP
1750 Tysons Boulevard
Suite 1800
McLean, VA 22102-4215
Tel: 703-712-5365
Fax: 703-712-5280
HCP:STS

\\COM\470673.1